Virginia Wildlife

MAY 1975

VOLUME XXXVI NUMBER 5

20 CENTS

Virginia Wildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

Published by* VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, *Richmond, Virginia 23230

COMMONWEALTH OF VIRGINIA

MILLS E. GODWIN, JR., Governor

Commission of Game and Inland Fisheries

COMMISSIONERS

WILLIAM H. WEST, *Chairman* . . . . Millwood
DOLPH HAYS, *Vice Chairman* . . . . Arlington
JAMES D. BOWIE . . . . . Bristol
EDWARD E. EDGAR . . . . . Norfolk
FRANK F. EVEREST, JR. . . . . Alexandria
ALLAN A. HOFFMAN, M.D. . . . . Danville
JAMES R. KNIGHT, JR., D.D.S. . . . . Warsaw
JOHN P. RANDOLPH . . . . . Spring Grove
RICHARD E. WATKINS . . . . . Richmond
RALPH L. WEAVER . . . . . Waynesboro

ADMINISTRATIVE OFFICERS

CHESTER F. PHELPS, *Executive Director*
JAMES F. MCINTEER, JR., *Assistant Director*
RICHARD H. CROSS, JR. . . *Chief, Game Division*
HARRY L. GILLAM . . *Chief, Education Division*
JACK M. HOFFMAN . . . . *Chief, Fish Division*
JOHN H. MCLAUGHLIN, *Chief, Law Enforcement Div.*
SAM J. PUTT . . . *Chief, Administrative Services*

PUBLICATION OFFICE: Commission of Game and Inland Fisheries, 4010 W. Broad St., Richmond, Virginia

HARRY L. GILLAM . . . . . *Editor*
ANN E. PILCHER . . . . . *Editorial Assistant*
CARL C. KNUTH . . . *Artist and Photographer*
MEL WHITE . . . . . *Circulation*

MAY

Volume XXXVI/No. 5

IN THIS ISSUE **PAGE**

Editorial: Gun Control 3
Letters 3
Home-Grown Geese 4
After Opening Day 6
The Elusive Morel 8
The Day Hunters 9
In Nature's Garden: Blue-eyed Grass; Yellow Star-Grass 11
Every Available Space 12
Conservationgram 13
Mattaponi Canoe Trip 14
Too Many Squirrels 16
Whitetail 17
Catch a Record Fish? 19
Southern Living With Rattlesnakes 20
Six-legged Wolves 22
The Drumming Log 23
Know Your Wardens: Thomas A. Daniel 24
Youth Afield 25
On the Waterfront 26
Bird of the Month: Horned Lark 27
Spawning Season (pictorial) 28

Observations, conclusions and opinions expressed in *Virginia Wildlife* are those of the authors and do not necessarily reflect those of the members or staff of the Commission of Game and Inland Fisheries.

COVER: Pileated woodpecker, by John W. Taylor, of Edgewater, Maryland.

SUBSCRIPTIONS: One year, $2.00; three years, $5.00. Make check or money order payable to Treasurer of Virginia and send to Commission of Game and Inland Fisheries, P. O. Box 11104, Richmond, Virginia 23230.

VIRGINIA WILDLIFE is published monthly at Richmond, Virginia, by the Commission of Game and Inland Fisheries, 4010 W. Broad Street. All magazine subscriptions, change of address notices, and inquiries should be sent to Box 11104, Richmond, Va. 23230. The editorial office gratefully receives for publication news items, articles, photographs, and sketches of good quality which deal with Virginia's soils, water, forests, and wildlife. The Commission assumes no responsibility for unsolicited manuscripts and illustrative material. Credit is given on material published. Permission to reprint text material is granted provided credit is given the Virginia Commission of Game and Inland Fisheries and VIRGINIA WILDLIFE, but clearance also should be obtained from contributing free-lance writers, artists and photographers to reproduce their work.

Second-class postage paid at Richmond, Va.

GUN CONTROL

THESE are powerful and popular words but they don't mean what they say. Control would imply restricting the use of guns to legitimate and acceptable activities; hence, prohibiting their possession and use for unauthorized purposes. We already have thousands of laws prohibiting their use for criminal purposes so we certainly don't need another. What are we talking about then?

District of Columbia Councilman John A. Wilson put it rather plainly recently when he proposed an amendment to the District's police regulations that would confiscate without recompense an estimated 52,000 privately owned handguns and shotguns in the district. Asked if he didn't think he was breaking faith with citizens who registered their weapons in the belief they would be allowed to keep them he replied, "That doesn't bother me. I didn't promise them anything. People think I want to take everybody's gun away—and they're perfectly right."

Congratulations, Mr. Wilson. Although I don't agree with your plan, you at least had the guts to say what you meant. Actually your plan has a better chance of accomplishing its goal of a disarmed citizenry than some of the subterfuges your contemporaries have proposed to accomplish the same thing.

So we are talking about confiscation. Presumably only of handguns in the minds of most proponents of "Gun Control." This would eventually get most of the guns owned by those who use them frequently including hunters, target shooters and criminals. Criminals, of course, could easily replenish their supply from underworld markets. Those that would not be affected are the millions lying in bureau drawers, desk drawers, under car seats and other places where they would be readily available to do violence to some person when fear or a fit of passion dictated. These would never be registered and only rarely confiscated. And there is no reason to naively presume that there would not be a lively black market traffic in such weapons among the otherwise respectable citizenry. So there is little to be said for the practicality of "control" except perhaps to put a loose fitting lid on the volume of handguns now in existence.

I have never used my guns for any criminal activity nor do I intend to. Why certain editorial writers and TV personalities consider them a threat to their well being I will never understand. TV is especially critical yet depends on guns for its livelihood. It is a rare TV show that can make it through 30 minutes without using a gun. Yet, if registration for "control" were instituted, legitimate gun users like myself would presumably become criminals if we didn't register our weapons and suckers if we did.

Criminals, dope addicts, persons with mental disorders, juveniles, fugitives and a long list of similar non-trustworthy persons are already prohibited from purchasing or owning weapons. How many more times must we make it illegal?
H. L. G.

LETTERS

Hunters and Hoodlums?

WITH reference to your November editorial, the NRA's concern for the hunter's image comes a little late. If the tarnish actually exists, it is the direct result of the NRA's successful lobbying efforts on behalf of the gun manufacturers, which put hunters and hoodlums in a class together. The public can only assume that the NRA is unable to distinguish between rifles and handguns.

Mrs. Ray P. Teele
Fort Collins, Colorado

YOUR comment that NRA efforts have gone a long way toward putting hoodlums and hunters in the same class is well put. They are guilty of what must be the worst public relations job this side of Watergate. NRA's interest in guns is much broader than that of hunters, and any threat to legitimate gun ownership could jeopardize shooting programs from high school pistol teams to olympic competition. Thus, they have ended up being unalterably opposed to almost everything and have unfairly been branded "Gun Lobby" by the media, whatever sinister implications that is supposed to have. I don't want to see us give up the handgun without a fight either because I am certain it will do nothing to curb crime.—Ed.

Radio Spots Appreciated

THIS letter is in support and appreciation of your educational commercials. I am a hunter and fisherman, and have been since I was big enough to put a worm on a hook. A graduate of Virginia Polytechnic Institute with a degree in forestry, I work with the Division of Mined Land Reclamation.

Thank you for what you are doing by educating the public towards hunting. I feel the hunter has the facts and nature to back him up, where the "save the animal" people have only emotions. I am in full support of hunting and fishing and will help you any way I can. My wife and I have heard many of your "talks" over the radio and we love them.

Dennis W. Anderson
Big Stone Gap

Mandatory Deposit Idea Endorsed

YOUR January editorial, "A Nickel's Worth of Serenity," gives one a lot of food for thought. I'm sure there are many youth and other organizations that would gladly pick up discarded cans for 5¢ each, since many groups have been picking them up without pay only to be discouraged by the reappearance of roadside litter in a very short time.

T. A. Maxey
Vinton

I was much impressed by your recent editorial. I think you overlooked one big asset of such a law as suggested: the great saving to the State in the cost of picking up these bottles and beer cans along the highway, and the saving to cities and towns in having them picked up and hauled to trash containers throughout the counties. More power to you.

Paul A. Johnston
Littleton, N. C.

HOME-GROWN GEESE

By CAROLINE BOKINSKY
Manakin

A FEW miles west of the town of Manakin in Goochland County a private man-made lake is the nesting site of a small flock of Canada geese, typical of many flocks that grace farm ponds throughout Virginia's piedmont. Through a concentrated effort on the part of the owner of the lake, these geese produced their first offspring in the spring of 1974. The flock of goslings has finally determined the success of the Canada goose in the area. After many years of trial and error at attempting to raise young geese on the lake, an ideal situation has been established.

An initial attempt to raise Canadas was made in 1968. Eight geese were purchased from Virginia's Eastern Shore, but they did not mate. Following this failure, the owner began to learn from authorities about the nature of Canada geese. Once these geese choose their first mate, they remain connubial for life. The following year, mated pairs were brought to the lake; again, no success. The geese were too young to reproduce. The starter flock of mated pairs should be proven breeders; that is, geese that have reproduced in the past. This would help insure the probability of producing goslings.

With this information in mind, pairs of proven breeders were brought to the lake where each pair was set in a pen on the shore. But the pens were too unnatural an environment for the geese who were used to having more freedom. Consequently, no young were produced in the following spring. Now preparation would be made so the geese could mate in an open and more natural habitat.

At the narrower end of the lake, small islands dot the shallow water. It was on these clusters of islands that old tires stuffed with straw were placed for nesting purposes. This seemed at the time to be a perfect solution to the breeding problems, but again the geese failed to reproduce. Not only were natural predators (raccoons and snakes) filching the eggs, but the geese themselves were destroying the eggs in the nests. It has been observed that ganders have a belligerent temperament when protecting their mates and, like all animals, are territorial. Their animosity was directed against another mate's nest. What eggs survived the war among the fowl were drowned by the flood later.

Female nesting on the old tire filled with straw. This platform is on stilts near shore.

Young goslings hide under the protective feathers of their mother.

A lone goose taking off to the flock at the approach of people.

Failure seemed to be all these geese knew, yet in the last effort, the females laid eggs, an accomplishment not attained in the past.

Next year the geese were given more room out on the open lake. Each pair were given about a half acre of area to themselves. This distance would probably help prevent further battles around the nests. Under ideal conditions, the problem of territoriality was solved and the "dog house" was designed. This is just as the term implies, but more adapted to geese, with one end completely open. The "houses" sat on stilts in the middle of the lake, dispersed enough so the geese would not

Protective mother goose attempts to get between goslings and intruding photographer.

In flight.

feel crowded by the neighbors. The "dog house" gave protection from any land predators and was raised off the water just enough to keep snakes out. It seemed protected from all types of weather, except floods. Therefore, due to the extreme case of weather, no young were produced.

In 1974 one more improvement was made that seems to have been the final touch to perfecting the ideal nesting site. Instead of putting the "dog house" on stilts, it was placed on floaters and anchored to the bottom of the lake. The nest could now rise with flood water, along with giving protection from other hazards. Last spring the first goslings of Canada geese were born. The effort took several years of attempt and failure, but final results made it all seem worthwhile.

These geese on the lake, especially the goslings, add to the beauty of the surroundings. All admirers of Canada geese will agree that there is no lovelier sight than a line of mother geese and goslings reflected on the water. Hopefully these geese will reproduce again, adding to the size of the flock. They will not be leaving their nesting sites because their wings have been pinioned to prevent their flying to the nearby James River, out of the protective range of the lake. Possibly other migrating flocks will be attracted to the lake by those already homing there. The ultimate aim of the owner is to make this lake the nesting site of migrating flocks of Canada geese.

Mattaponi Canoe Trip (Continued from page 15)

paddled into the Virginia Game Commission ramp exactly at the agreed-on time of 12 noon. The wives drove up at almost the same time with welcomed cold drinks and a picnic lunch.

Canoeing the Mattaponi or any tidal river presents problems new to the inland canoe buff. Careful attention should be paid to tide charts. If the trip is planned to take advantage of an outgoing tide at dawn, the trip will be much easier. The time in the afternoons, when the tide turns against you, can be spent making camp and fishing the incoming tide. This plan also means you can paddle in the cool part of the day and rest when the temperature climbs.

Wind is an important factor to be considered on wide and often windswept tidal rivers. A low-profile canoe will take to the wind better than one with a high bow and stern. Keeping the canoe close to lee side of bluffs, islands and trees which break the force of the wind can be very helpful.

Excepting storm fronts, the wind generally has less force at dawn and at dusk than at other times during the day. This is another reason why paddlers should make it a point to be on the river as early as possible.

On any river we find topographic maps published by the U. S. Geological Survey to be a boon, and are never without them. With the maps you can pick out historical features, mountains and streams. After some experience you can learn to pick camping areas far ahead of time. The maps also are a great help in arriving at the take-out point at the agreed-on time. In the canoe the maps are kept in waterproof, transparent plastic map cases and placed in the bow for quick reference by the bowman.

If canoeing a tidal river sounds like fun, and it is, you have a wide choice of streams in Virginia. From upper Chesapeake Bay to the North Carolina boundary there are hundreds of miles of tidal streams and rivers to canoe.

After Opening Day

BILL ANDERSON
Grundy

Photos by Mrs. Bill Anderson

Away from the opening day crowds, father and son can relax and discuss the finer points of fishing.

With the stream virtually to themselves, young anglers have a ball and often take surprising strings of the more wary trout.

IT was reminiscent of a ghost town. Gone were the crowds; a hush had settled and the only noises were an occasional automobile on the highway and the eternal laughing of cold water as it splashes and dances over stones worn smooth by countless tons of water.

For weeks tension had mounted, and then on that first Saturday in April crowds had swarmed over the creek banks, a few people even dared wade the frigid water. The atmosphere was carnival like, especially among the anxious children. Then just at noon, or perhaps a minute or two before, some brave soul cast out a rooster-tail spinner, and if by signal dozens of other lures and baits followed. For a few seconds there was silence, then someone shouted excitedly, "I've got one! I've got one!" Other fishermen began to tangle with the rainbows and browns.

But that was over. Only worn paths and litter, thoughtlessly cast along the streamside, evidence the presence of so many people. Now only an occasional angler steals along the winding creek, with hopes of landing two or three fish that will later provide a tasty treat.

At dawn I slipped from a warm bed into the chill morning air. A snowflake flitted and swirled, finally coming to rest on the sprouting grass of my lawn. Streaks of blue above the clouds gave promise of better weather. I walked a few dozen yards from my house and began fishing in Slate Creek.

After more than an hour without a strike I was surprised when a large olive form came streaking through the water, hit my bait, released it, and again disappeared into the depths from which it had come. Shaken a bit, I continued fishing another hour without success. Not another angler was seen during the entire time.

On the second day of season my son, Billy, an ardent fisherman at thirteen, claimed to have hooked a large trout, which, unfortunately, broke his line and escaped. Now it appeared the lunker was still free and sassy!

Throughout the day memories of that fish haunted me until I again slipped back to the small stream. But this time I had company; a husband-wife team was fishing just above where I had encountered the large fish. Their stringers were empty. We talked as we fished and generally enjoyed the sun that was now warming the air, but not a strike came for either of us.

Finally the couple moved on downstream, but thoughts of that larger-than-average trout kept me glued to this stretch of water. Methodically I switched from one lure to another and from bait to bait trying to get a rise. About ready to give up, I cast downstream and watched the monofilament line settle to the green water.

This time I didn't see him first. My line yanked slightly and instinctly I set the hook. The top of the water exploded as a two-foot trout broke water three or four times, rolling and pitching, trying to shake his unknown assailant. After a few minutes I worked him into shallow water downstream, expecting to see my worn, light line break any second. But when I scooped my landing net into the water I knew he was mine!

This little episode is not related to show what a hot-shot fisherman I am, because I am not (Billy usually has a heavier stringer than I do), but to demonstrate that all the trout are not caught out of the small streams during the first weekend of season. However, it is very true that a large percentage of fish are taken opening weekend.

I would not intentionally miss opening day of trout season, however crowded, but fishing after opening day offers dividends that cannot be found while standing elbow to elbow with other fishermen. When you are alone there is no competition, no hurry. You have time to relax, try different lures, various baits. Your line does not tangle with that of your fellow sportsman.

One may find solitude after opening day, a chance to sit by the stream and admire, study, and learn about nature. And there are always the fish. Stocked trout become more wary and independent, and they fight harder when hooked.

Even on such heavily fished streams as Big Tumbling Creek one may find this "after opening day" atmosphere. Big Tumbling is regularly stocked from April until Labor Day, although only a short section is stocked each time. Fish Big Tumbling on weekdays in the areas that weren't stocked the previous night and you will encounter few other people. Laurel Bed Lake, in that same area, is grossly underfished.

Once my youngest son, David, and I had momentarily ceased our fishing to watch two anterless deer feed along the opposite side of Tumbling. Deciding to do some exploring, David climbed to the top of a small embankment behind us. There was a crashing of brush and David returned, wide eyed, his hands stretched to arm's length. "Daddy, you should have seen those horns; they were this long!"

Last year while camped at Blowing Spring in Bath County, Billy caught a trout and a smallmouth bass in Big Back Creek. Although eating size, they were far from trophy size; but the trout fought as furiously as did the bass. A little later he tied into a real lunker, but it shook the spinner without breaking water.

A good fisherman who is willing to really work for his catch may occasionally take a limit of trout well after opening day, although the sportsman should not consider a limit of game as his ultimate criterion. Due to a lameness, I cannot work as hard at my sport as I once did. But being slowed costs me nothing in pleasure received, and after all that's what it's all about.

Often after opening day weather is warmer and a family outing can be combined with fishing. There very small youngsters will have a chance to learn some fishing technique and outdoors lore from dad. The little fellows may even catch a trout—or a horny head. Although we shouldn't be, too many of us are too anxious to fish on opening day to have patience to supervise our small children in their fishing.

And that freshly prepared fish, eaten within minutes after being caught, can't be beat! We have camped by a stream and caught enough fish, trout or otherwise, for a meal many times. Nothing is comparable with panfried potatoes, salad, and hot, brown fish washed down with a cold drink of your choice.

I introduced my nephew to fishing more than ten years ago by taking him fishing on a deserted trout stream well after season had begun. With nothing but a can of red worms for bait, we filled a stringer with trout and bluegills. We spent a beautiful, wonderful afternoon without seeing another fisherman. John was very young then, but he well remembers that day—and so do I!

Where to find fish after opening day? I always try the obvious places first: ledges, cutbanks, logs, and dark little pools. But I have caught them almost anywhere there is water. So if the usual spots don't pay off, I try the places I think they won't be. I have taken fish from clear, shallow water, where I would have bet my rod a trout didn't exist.

Generally I use a spin-cast outfit, but sometimes I revert to my 25-year-old bamboo fly rod. I use spinners, flies, worms, corn, or whatever the fish happen to find appealing on any particular day. After all, I want to make them happy! I start off by using a slow moving bait or lure. If this doesn't work I speed it up, let it drift, or use erratic little twitches. If using bait, I still fish it a minute or two before retrieving.

But whatever you fish with, wherever you seek trout, don't hang up your rod after opening day. Take the time, and you'll find rewards you never thought possible!

This trophy lunker escaped myself, my son and no telling how many other anglers since opening day only to strike one too many times and end up on my stringer.

The Day Hunters (Continued from page 10)

almost entirely beneficial to quail and other game species because they control the enemies of those species.

Virginia's only important diurnal birds of prey outside the hawk families are the shrikes. These small, predominantly grey-and-white birds are found here primarily in the winter, when they are fairly abundant. They can often be seen perched on utility wires near fields, making frequent quick flights to the ground to seize prey. They feed heavily upon insects, but also take small birds and animals. Unlike hawks, they are not equipped with powerful feet, and hence must kill primarily with their beaks. This makes their hunting a dangerous game when they face up to a small but vicious rodent; but these brave birds attack and kill large numbers of them, as revealed by their peculiar habit of sometimes impaling their prey on thorn bushes. Often mistaken for the mockingbird whom they resemble, these useful birds undoubtedly perform a great service in helping to maintain nature's balance.

THE ELUSIVE MOREL

By PAUL BRATTON, JR.
Deerfield

IN the spring, when many are wading trout streams or trying to lure a bearded wild turkey within range, another native wild food is often overlooked. This elusive object is the morel mushroom and deserves to take its place with fried trout and roasted wild turkey as one of the finest wild foods.

In Virginia's mountains, you are likely to find them poking through a carpet of oak leaves about the first day of May. These mushrooms are two to four inches tall with a distinctive ridged and pitted cap that resembles a sponge, giving them one of their common names, sponge mushroom.

The seven true morels all belong to the genus Morchella. Morchella esculenta is considered the best tasting although all are edible. All true morels have the pitted cap and are hollow. They are found in old apple orchards, on burned-over wooded land, and in the leaf mold of oak forests.

In Virginia, morels grow for only two to four weeks from the end of April to the middle of May, depending on weather conditions, although they have been known to appear in autumn. The morel hunter can find them in the same spots each year.

I have never been able to find more than a dozen morels at any one time in Virginia, but last June in the Canadian Rockies I found large numbers of morels scattered along a trail. If you are lucky enough to find a surplus of morels, you can freeze or dry the excess.

It isn't necessary to be a mycologist to enjoy edible mushrooms. When the beginner can identify one edible mushroom, he can safely gather and eat that one while becoming more familiar with others. Morels are a good mushroom to start with because of their excellent taste and distinct appearance. They are the only mushroom with a pitted cap.

The only mushroom that could possibly be confused with a morel is *Gyromitra esculenta,* sometimes called the false morel. Some people have eaten this mushroom with no ill effects but others have died from it, so it must be avoided. *Gyromitra esculenta* has a wrinkled brain-like cap but it does not have the pitted cap of the true morel.

The true morels can be used in any mushroom recipe and are said to be especially good stuffed and prepared like stuffed green peppers. I believe they are best sauteed.

To sautee, morels should be sliced lengthwise into inch-wide strips. After washing, the strips are dusted lightly with flour and fried in hot butter. When done, place the strips on toast and pour the remaining butter over them.

Morels are a food that most people enjoy from the first bite. If we could buy them in the supermarket and enjoy them year round, perhaps we would not value them so highly.

A store-bought trout is never as savory as one you catch yourself, and the successful hunter enjoys his venison more than the finest beef. Maybe their scarcity and the search makes them taste better. But once you have tasted morels, you will waste little time analyzing why they are good when you can be out in the spring woods searching for more.

Too Many Squirrels (Continued from page 16)

tension service, may give you ideas or plans for squirrel proof type feeders.

We realize that there are other reasons why squirrels will overpopulate, or congest, but in Annandale the immediate problem points to over feeding. Many people feel that they are helping the animals by feeding them, and do not realize that over-feeding often creates situations that are unhealthy to the animals, as well as damaging to personal property. Squirrels are wild animals, and this is a point that is too often overlooked.

THE DAY HUNTERS

Red-tailed Hawk

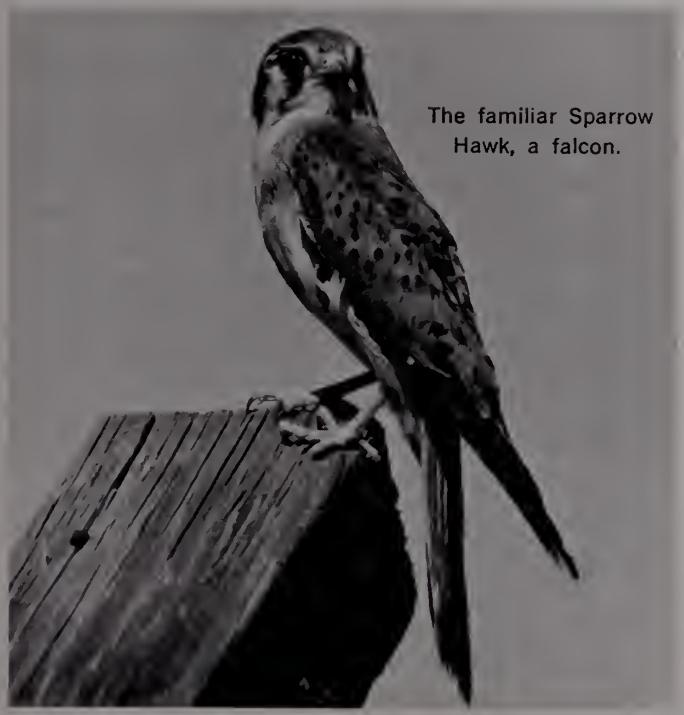
By FRANK T. HANENKRAT
Lynchburg

L. L. Rue III Photos

BECAUSE they hunt during the day and were once very numerous, hawks have probably been the most maligned and persecuted birds of prey. Aside from the old belief that hawks compete seriously with man for game species, perhaps the most damaging blow to hawks has been their reputation as robbers of domestic fowl. The names "chicken hawk" and "hen hawk" are familiar to almost everyone. Sadly, however, the names are applied indiscriminately to any large hawk; but in fact only one uncommon species, the Cooper's, possesses the right combination of large size and great speed to enable it systematically to prey upon chickens. Since many people do not distinguish between various species of hawks, the urge to destroy all large hawks persists, despite the fact that the family chicken-lot is almost entirely a thing of the past.

Fortunately, now that they are protected by law, most hawk species seem to be holding their own. One specialized species, the osprey, which feeds exclusively upon fish, seems in danger because DDT in the water tends to concentrate in fish bodies, and then passes up the food chain to the osprey, resulting in the bird's inability to produce hatchable eggs. A similar plight surrounds Virginia's population of bald eagles, another fish-eater which has not been abundant in the state for many years. Both species are being carefully studied and measures are being taken to aid them.

Recognizing the plight of hawks, many people have recently brefriended them, and demonstrate their affection for these beautiful birds in several ways. An example of the change in recent years is related to the flights of some migrating species, such as the broad-


The familiar Sparrow Hawk, a falcon.

winged, who summer in North America and winter in South America. Each fall, vast numbers of these birds "hitch a ride" southward on the updrafts created by northwesterly winds striking the Appalachian mountain chain. Called "casts," these flocks sometimes reach large concentrations at certain points, such as the now-famous Hawk Mountain in Pennsylvania, and at various spots along Virginia's Blue Ridge Parkway. In one year at Hawk Mountain, over 11,000 birds passed by in one day. In past years, hunters were known to gather where hawk casts appeared and slaughter the birds by the thousands. Today, however, dedicated hawk watchers from all over the country gather at these spots and cheer on the birds; they come armed only with binoculars, telescopes, and cameras. They operate a carefully supervised tallying system which keeps track of the number of individuals seen of each species. Aside from its enjoyable aspects, hawk censusing activities by amateur birders provide a means for scientists to gather important data on hawk population changes.

Hawk watching is almost a specialization within the larger sport of bird watching. Some hawk species are easily identified, but others, and particularly the immature hawks of many species, are difficult for even the most expert birders. Almost anyone can, with the aid of a good field guidebook, take part in this challenging sport. Finding hawks to observe is not very difficult if one looks in the right places. Eagles and ospreys, of course, are most likely to be spotted near large bodies of water. Other hawk species are present almost everywhere adequate food and cover are available. I have on various occasions seen several species of hawks near

the small woods close by my home in suburban Lynchburg. A brief drive into any rural area will almost always turn up one or two hawks for an astute observer.

Hawks are best observed while they are hunting. Those who prey mostly upon small animals (rodents, snakes, frogs, insects, etc.) hunt by scanning the ground for victims. The hawk then swoops down and effects a kill by piercing the victim with his talons. Some of the larger hawks, such as the red-tailed and red-shouldered, like to scan from lofty perches in old trees or atop utility poles. These species are wary and seldom permit close approach; they are best observed through a telescope of 20X or more. Other species, such as the broad-winged and marsh hawks, frequently scan while soaring or quartering over grassy fields. They are more readily approached, and are easily observed through binoculars. Some of the smaller hawks, such as the kestrel and merlin, hunt from perches on power lines or roadside trees, and often permit reasonably close approach by automobile, but are also best observed through field glasses.

One group of hawks, of which the Cooper's and sharp-shinned are members, are heavily specialized for hunting small birds. These hawks have short wings that pass easily through the openings among tree branches, and long tails which serve as very effective steering rudders and enable them to bank, turn, and dart about with great agility. Strong, swift fliers, they characteristically pursue small birds in flight, overtake them, and strike them with a "fist" made of a balled-up foot. When the stunned victim falls to the ground, the hawk then alights and claims its prize. Seeing these hawks in action is an uncommon experience, largely because they are nowadays relatively rare in Virginia.

All hawks are essentially opportunists, however, and

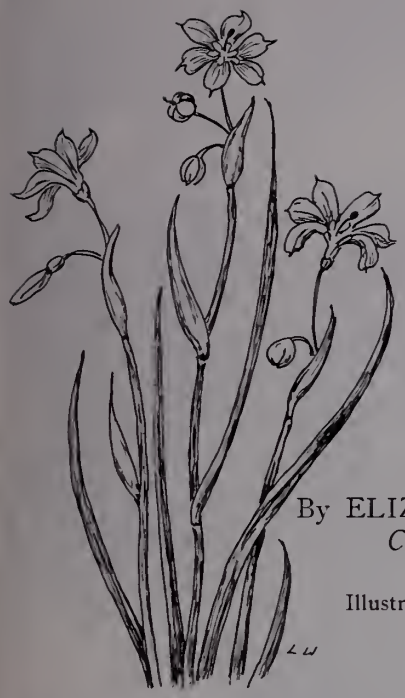
Osprey bringing in stick for its nest.

Young Red-shouldered Hawk

will take whatever desirable prey happens to be available, by whatever means are available. Many hawks, for example, will chase a victim on foot for a short way if the first strike is unsuccessful. The same opportunism is reflected in the diet of hawks. They prey upon a given species in direct proportion to the availability of the species. Thus, if we consider the *collective* population of hawks in a given area, and the *collective* population of prey species, the predator-prey relationships can be expressed in fairly precise ratios. For example, if small rodents constitute 95 percent of the *available* prey, small birds 4 percent, and game birds 1 percent, then rodents, small birds, and game birds will tend to represent 95, 4, and 1 percent, respectively, of the collective hawk diet.

It is the collective hawk population, made up of many different species, that constitutes a natural, desirable balancing mechanism in a given ecosystem. Individual hawks may occasionally function in undesirable ways, but when the totals of the predator-prey relationships in an area are considered, the marauding individual is relatively harmless. For example, Dr. Harold Stoddard, author of *The Bobwhite Quail* and an eminent ecologist, carried out a thorough study of hawk-quail relationships in northern Florida and Georgia. He concluded that only the Cooper's and sharp-shinned hawks were actually enemies of bobwhites in that area. Other hawks were neutral, or even beneficial. Dr. Stoddard writes of the marsh hawk: "Not more than four quail were discovered in approximately 1,100 pellets. . . . On the other hand, one or more cotton rats were found in 935 of these pellets. Since cotton rats destroy the eggs of quail, the marsh hawk is probably the best benefactor the quail has in the area. . . ." Predator-prey relationships are extremely complex and subject to many variables, but it is probably safe to say that in Virginia, where the Cooper's and sharp-shined hawks are relatively rare, hawks do negligible damage to game birds and other wildlife useful to man. Hawks are collectively

(Turn back to page 7)



In Nature's Garden:

BLUE-EYED GRASS

By ELIZABETH MURRAY
Charlottesville

Illustrated by Lucile Walton

THE word 'grass' is included in the names of so many pretty flowers that have nothing at all to do with the true grasses, all of which belong to the huge family Gramineae. Blue-eyed grass and yellow star-grass are two delightful little late spring bloomers which, although they look rather alike, are actually classified in different families. Yellow star-grass or *Hypoxis hirsuta* belongs in the amaryllis family, whereas blue-eyed grass, *Sisyrinchium angustifolium,* is included with the irises. The two families are quite closely related and, in fact, the two flowers are frequently next door to each other in the flower manuals. Both flowers have six similar parts in the perianth (that is the corolla plus the calyx, or petals plus sepals), and in both cases these consist of three petals and three sepals, all petaloid and sometimes collectively referred to as *tepals*. This is a characteristic of many of the monocotyledon families with flowers, such as the Iridaceae, Liliaceae and Amaryllidaceae.

The flower of *Sisyrinchium* is a very fleeting thing, blooming only on one day—which must be a sunny one—and then dying back. However, several flowers are arranged at one place on the stem in a loose umbel and they flower singly one after the other so that one flower *seems* to be blooming on the stalk for quite a few days. The flower stalk is quite unusual, it stands very stiff and erect, and is two-edged and flattened. The flowers are borne on small individual flower stalks which spring from a pair of sheathing leaflets at the top of the main stalk. The leaves are very narrow and pointed and not nearly as long as the flower stalks. They are gathered round the base of the plant, so that the blue flower, rising above them, is quite conspicuous despite its small size. There are three bright yellow stamens which contrast sharply with the blue petals. The stamens are grouped round a single, central pistil. The fruits are capsules which turn blackish as they ripen and dry. Blue-eyed grass is widespread in moist fields and hillsides throughout the eastern U.S. and west to Colorado, Kansas and Illinois. It is in flower from May through July.

Yellow star-grass, *Hypoxis hirsuta,* has a similar configuration to *Sisyrinchium* in that the flowers are arranged in a loose cluster of about three and open sequentially, although *Hypoxis* often has two blooms out at one time. In *Hypoxis* the leaves are longer than the flower stalks; they are slender and grass-like, distinctly grooved and with a noticeable rib. The leaves and flower stalks are hairy, and so are the undersides of the petals. These petals are slightly greenish underneath and a good clear bright yellow on their upper surface. There are six brilliant orange-yellow stamens grouped round a three-sided stigma. The fruit is a capsule which may also be slightly hairy, and the seeds are shiny black and angular. *Hypoxis* prefers drier localities to those frequented by *Sisyrinchium,* growing usually in rather sandy soil in fields and open woods from Maine to Florida and west to Wisconsin, Kansas and Texas. It blooms mostly in May and June but a few flowers can be found on the plants all through the summer into September.

The specific name *hirsuta* is easy to understand since nearly all parts of the plant are hairy or *hirsute* at some stage. *Hypoxis* is a little harder to explain. *Hypo* means 'underneath' and *oxys* means 'sharp' or 'pungent' and the name may refer to the little sharp points on the seeds. *Sisyrinchium* is a singularly unsuitable name for such a delicate little flower since *sis* comes from the Greek word for 'pig' and *rhynchos* means 'snout' and the name is supposed to have been given because pigs enjoy grubbing about the roots of the plant for food! *Angustifolium* merely means 'narrow-leaved.'

Both these flowers are fairly common and can be transplanted quite easily.

YELLOW STAR-GRASS

Every Available Space

By JIM and GAIL SULLIVAN
Blacksburg

A burnt stump provides nutrients for this dandelion.

MULTITUDES of seeds and spores are produced annually, are dispersed by plant mechanisms, wind, water, birds, or animals, and come to rest in some of the most unlikely spots. Few actually sprout; fewer, still, actually complete their life cycle.

The few that do are the best adapted. They may be the forerunners of new species. They are, at the very least, the pioneers in extending the range of a species.

Could it be that a dead-nettle growing in a tree trunk might be the forerunner of a new species of epiphyte? Could it be that a catnip growing out of seemingly bare rock may someday be as common a sight as similarly growing stonecrop?

Every available spot, at one time or another, may be tested by numerous species. Bare rocks are invaded and etched by lichens. Suitable habitat is thereby made available for mosses. Eventually, whole communities may be found on the rocks. Death of community members produces yet other available space for saprophytes. The accompanying photographs illustrate how every available space may be tested and used by plants.

Lichens etching a rock are accented by a cluster of male box elder flowers. Below: This dead-nettle found suitable lodging on a tree trunk.

The death of a tree means life for saprophytes.

In the middle of a stream, a boulder supports a simple community of plants.

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

BACK BAY CHOLERA EPIDEMIC SUCCESSFULLY CONTROLLED. A virulent strain of avian cholera which began killing large numbers of coots (*Fulica americana*) on Virginia's Back Bay in February was successfully controlled through the joint efforts of the Commission of Game and Inland Fisheries and the United States Fish and Wildlife Service. In order to control the disease, which stood in the path of thousands of migrating coots and millions of other waterfowl, a number of coots were sprayed with a detergent by a crop dusting aircraft and removed from the water by Game Commission and Fish and Wildlife Service personnel. Sprayed with detergent, the birds were unable to fly and were easily caught. The captured birds were humanely destroyed in a vacuum-gas chamber supplied by the Virginia Department of Agriculture.

U.S. STUDIES ENDANGERED FISH SPECIES. Blind cavefish, frecklebelly madtom catfish and rustyside suckers are among 29 species of freshwater fish selected for study by the U.S. Fish and Wildlife Service to determine if they should be classified as endangered or threatened species. Twenty one states are being asked to cooperate in this review. Most are in the Southeast. In Virginia, the rustyside sucker has disappeared from many streams in recent years and is currently found only in the Blue Ridge and upper Piedmont streams of the Dan River system. Biologists are not certain why the fish have declined, but suspect that the cause may be sedimentation from poor agricultural practices and construction activities in the upper Piedmont. Reviews of this nature are being carried out by the Service's Endangered Species Office as part of an ongoing surveillance of the animal world.

YOU ARE INVITED TO ATTEND the 16th annual Fontana Conservation Roundup which will be June 11-14 at Fontana Village Resort, Fontana Dam, North Carolina 28733. This year's Roundup theme is "Planning the Use of Land - For What, By Whom and How." The conference is open to the public and information can be obtained by writing Fontana Village Resort at the above address.

DEER HARVEST UP IN COMMONWEALTH. According to figures recently released by Game Commission Biologist Supervisor, Jack Gwynn, the deer harvest for the 1974-75 season is up from the previous year. Last year's total was 60,798 while the just concluded season accounted for a harvest of 61,904 deer.

HOFFMAN RECEIVES TROUT AWARD. Jack Hoffman, Chief of the Game Commission's Fish Division, was recently awarded the Silver Trout Award by the Virginia Council of Trout Unlimited. Mr. Hoffman was presented the award for his outstanding efforts toward trout conservation in Virginia.

MATTAPONI CANOE TRIP

By C. L. HATCHER
Martinsville

"YOU look like the walking wounded," David said as we paddled our canoe on the final 30-mile section of one of Virginia's most unique rivers—the Mattaponi.

A late April sun was bearing down and I had covered my arms with a bandanna hankerchief and an undershirt to prevent sunburn. We hadn't expected hot weather this early in the spring. Anyway, I shouldn't have been wearing a short-sleeved shirt on a canoe trip. But changing weather is part of canoeing. Three months earlier, in late January, Bob Beck and I were canoeing the beautiful upper New River in western Virginia when we ran smack into a cold front with a 25 mile-an-hour quartering wind and temperatures that plunged to 10 below zero, glazing the canoe and paddles with ice before the bitter cold drove us from the river.

Then, the summer before, we canoed nearly 50 miles of the James River in almost constant rain.

Now David and I were sweltering in April.

Although we had done considerable canoeing on white-water streams in Virginia and West Virginia, the trip on the Mattaponi would be our first on a tidal river. The three of us had planned the trip, but Bob had to drop out at the last minute, so David (my brother-in law, David Aderhold) and I decided to make the trip in his 18-foot fiber-glass canoe he had put together from a kit the previous winter.

A word on canoes for big rivers. David's 18 footer proved—to us at least—that the big "guide type" canoe is the best bet for several reasons: (1) With two people and duffle it is safer than smaller canoes. (2) A lower profile at the bow and stern makes it easier to paddle into the wind. (3) The sharper bow makes it a faster canoe. True, the bigger canoe is heavier, but if few or no portages are on tap, the added five to eight pounds matters little.

Our trip on the Mattaponi started Thursday when my wife Sarah and I drove to David and Judy's home in Richmond. Early the next morning the wives drove us to the launch point at Walkerton, about 40 miles northeast of Richmond. They agreed to pick us up 30 miles downstream at West Point at noon Sunday where the Mattaponi and Pamunkey rivers join to form the York.

We swung the canoe into the outgoing tide, swept under the Walkerton bridge and were on our way.

As any canoe buff will tell you, there are few joys equal to drifting down a mist covered river in the early morning, past green islands and forest covered bluffs. A mile below Walkerton we spotted an osprey wheeling high over the river, searching for his breakfast.

Equipment and supplies needed for a weekend trip on the Mattaponi are relatively simple, keeping in mind safety, reasonable comfort, and reasonable convenience.

For safety the canoe should carry an extra paddle (we learned that the hard way on Foster Falls on the New River), life jackets, and 50 feet of good quality nylon rope. Life jackets are used as cushions until heavy water is reached.

Because the Mattaponi is brackish and few rivers today are completely free from pollution, we carry 2½ gallons of fresh water in a folding plastic bottle in the bow.

Our sleeping bags and air mattresses go into plastic bags. The plastic bags then go into a duffle bag, and the duffle bag goes into a large plastic garbage bag and the

end tied. All this may seem like a lot of trouble, but one night in a wet sleeping bag will convince you it isn't any trouble at all.

A lightweight, waterproof nylon backpack carries the remaining equipment—cooking kit, food (mostly dehydrated to keep down weight and bulk), an axe, folding saw, extra rope and personal items. Cooking is done on a camp fire. For the Mattaponi we decided to use a lightweight tarp tent instead of the regular canoe tent. We guessed (correctly) that insects wouldn't be a problem this early in the season.

We also took along a fishing rod each and a minimum of tackle. A camera and a pair of binoculars rounded out our equipment. Extra precaution should be taken to protect the latter items from water. Clothing, of course, depends on the season. Rain gear is always taken, as is a wool shirt or jacket. Nights are often cool on a river in any season. Long-sleeved shirts are a must.

The Mattaponi isn't a long river in the class of the James, the New and other major Virginia streams. And it isn't white water, but it does have a charm of its own.

Rising in central Spotsylvania County, south of Chancellorsville, the Mattaponi flows southeast through Caroline County and forms the boundary between King William and King and Queen counties, an area rich in the history of the early Commonwealth.

The Mattaponi is a surprising river. Despite the fact the river is located near that fast growing corridor between Richmond and northern Virginia, the Mattaponi is relatively isolated and remote.

A quick look at topographic maps for the area shows why. The river drains a large marsh and swamp-like area. Only in a few places do roads reach the river. It is possible to canoe the river for miles and see few people or buildings.

Because of the natural beauty and historic qualities of the river, the Virginia Commission of Outdoor Recreation has recommended that a section of the river be included in the state's Scenic River System.

In colonial times the Mattaponi was an important commercial waterway upstream to the point where Route 360 now crosses the river at Aylett.

Several plantation homes remain on the banks of the river in some sections. The Virginia Historic Landmarks Commission has listed 17 historic buildings along the waterway.

The river also is important as a nursery for many species of fresh and salt water fish, including American and hickory shad. The shad fishing was one of the things that drew us to the Mattaponi.

The one aspect of the river that impressed us most is the heavy population of bird life it supports. On no other river we have canoed were the many species of birds as numerous as on this river.

On one section, a few miles below the Mattaponi Indian Reservation, we observed five ospreys in the air at one time, a sight not common on Virginia rivers today. Several species of owls were also seen. Once, while fishing under a mid-river duck blind built on stilts, we were watched for several minutes by a barn owl who apparently had taken over the blind after the duck hunting season.

Good camping sites along the river are difficult to find—until you learn where to look for them. Most of the length of the Mattaponi is bordered by either marshes or bluffs up to 50 feet high. It takes a bit of climbing, but the flat tops of the bluffs make excellent camp sites.

For our first camp we selected a 40-foot bluff about a mile below the Indian reservation. Within an hour we had made camp on a high and dry site which provided a beautiful view of the river.

After our camp chores we took the canoe out for our first try at shad fishing. Within an hour I managed to hook a four-pounder that proved to be an excellent fighter on the light spinning tackle. We were hoping David would connect on his fly rod. A large shad on the end of a fly rod would be something to behold. No shad, but he did catch a couple of scrappy yellow perch.

For supper we decided to cook the shad in the old Indian method of planking. While David scouted around for a suitable driftwood board, I cleaned the shad, splitting it down one side. We cut small wooden pegs to fasten the now flat shad to the board. Propped in front of a fire of hardwood coals, the shad baked slowly while we prepared the rest of supper—fried potatoes and onions and skillet cornbread. Hands down, it was our best meal of the trip.

It was an ironic situation. While finishing supper we watched Indians from the reservation fishing for shad on the river below. We were using the Indian's boat, the canoe, and eating fish prepared the way he taught the first settlers—by planking. Meanwhile, down on the river the Indian was operating a modern boat powered by an outboard engine and catching shad, not for planking in front of his campfire, but fishing for shad destined for the kitchens of housewives in Richmond.

Saturday promised to be another hot day, so we broke camp early and were on the river by the break of day. We had the outgoing tide early, but by early afternoon the tide switched and the wind came up on the bow. Paddling was difficult, so we made camp early and rested under the tarp.

I had climbed the bluff to view the site, and it wasn't a good one. But we were tired. I called David up to take a look. "Wonderful!" he exclaimed. We laughed and flopped under a pine to rest and eat. Later we put up the tarp and dozed a while before late afternoon fishing.

A look at the map showed we were in good shape for the last 10 miles to West Point Sunday morning. Again we were on the river by daylight Sunday and

(Turn back to page 5)

Too Many Squirrels

By
Alan Bristor and Jerry Moore

THIRTY squirrels feeding at the same time and in the same place makes quite a crowd, but that is what we observed when we started studying squirrels in Annandale, Virginia. During the spring and summer of 1973, Jerry Moore and I became involved in several joint squirrel studies. Jerry is a Fish and Wildlife Biologist with the Environmental Protection Agency, and I was a naturalist with the Fairfax County Park Authority at the time.

Our first confrontation with masses of squirrels came about at the Hidden Oaks Nature Center (Annandale Community Park). I was already conscious of squirrels around the center, because there were too many to ignore. Reason for the unusual concentration was obvious. The squirrels were being fed. The nature center had several hanging bird feeders that were very easy for the squirrels to tip, allowing the seeds to spill on the ground. Information gained during a live trap study revealed that as many as 24 different squirrels were using the center as a feeding area. During this study, squirrels were trapped, marked, and released. We used a color dye marking system that allowed us to spot and identify individual squirrels. Another important observation made during this study was that when bird feeders were partially empty, squirrel visitation was immediately reduced. Although this fact is very basic and easy to understand, it can be an important key in helping citizens control their squirrel problems.

Working at the nature center, I heard about other squirrel problems in Fairfax County. Although the center does not handle such problems, I responded to several of the calls on my own time. Most were complaints about too many squirrels, and squirrel damage to flora. Each complainant was just as concerned for the squirrel's well-being as for that of his own property. Bird feeders in the yard were drawing squirrels. In some cases, the squirrels were eating plant materials on the property, but in most instances bird feeders were the attraction.

We were amazed at the large numbers of squirrels living in wooded back yard sections. As I previously mentioned, it was not uncommon to find 30 squirrels feeding in one yard. Because of the relatively small amount of woods, we concluded that the squirrel population density in these urban strips is more directly related to the food availability than size of the habitat area.

In several of the cases, we live trapped and relocated the squirrels for further study. However, this method just opens up the area for more squirrels to move in. We ended up going back to the nature center where we studied the feeding aspect more closely.

As it turned out, the answer to the problem was simple. We concentrated the squirrels at the center with ample food spread on the ground, in a 10,000 square foot area. We chose the particular sized area to correspond to an average yard size. After a week, about 24 squirrels were feeding at different times throughout the day. We started cutting back the daily rations. As the food supply decreased, so did the number of squirrels. At the end of a two week period, the food supply was stopped completely. At this time, there were only a few squirrels that came to forage in the area. The rest of the squirrels had spread out to do their feeding elsewhere in the park. The idea of reducing the food supply gradually, gives the squirrels time to readjust to their natural foods. Also, if the food was stopped all at once there would probably be a mass emigration of squirrels that would create a problem elsewhere.

If you, the resident, want to follow the food reduction method, you may have to enlist the support of several neighbors. In fact, they may be the ones responsible for the feeding. You could point out to your neighbors that squirrels can cause damage to trees and plants, and by feeding them, they are causing the squirrels to become dependent on the free food supply.

If you want birds but not squirrels, then we suggest that you put out small amounts at frequent intervals or try using squirrel proof bird feeders. Certain publications such as the January, 1974, issue of *Virginia Wildlife,* and the December-January, 1974, issue of *National Wildlife* magazine, as well as your local ex-

(Turn back to page 8)

(An independent study project done in conjunction with the wildlife program at Northern Virginia Community College.)

WHITETAIL

By STEVE PRICE
Houston, Texas

THE day had been sunny but cool, a pleasant change from the scorching days of the week before. As I crouched in the blind beneath the pine trees and watched the afternoon fade into evening, I wondered if the cool weather would make the wildlife more active. Perhaps the big buck I was waiting for would come to water before the light faded too much for pictures.

Before me stretched a calm, blue lake, and the tracks around its shore indicated this would be a good place to wait for deer. But after nearly two hours I had seen nothing except several squirrels and shorebirds.

Then the deer was there. I never saw it come out of the woods. It just appeared, and even though I was probably a hundred yards away, the animal sensed all was not normal around the lake. The white tail flicked in sudden jerks from side to side; the pointed ears stayed straight up; one paw stopped in mid-air.

Then, as suddenly as it had appeared, the deer also disappeared. In a flash, the animal whirled, its white tail now raised high, and in two mighty leaps was back into the woods. I didn't get a single satisfactory picture of that deer, and I have photographed many more since, but that particular whitetail stands out because it was my first real attempt at photographing them.

As a wildlife photographer, I think I've had more fun chasing whitetail deer than any other animal, and as a trophy to be taken with either camera or gun, it's hard to beat. A good many experienced deer hunters, in fact, rate the whitetail deer, *Odocoileus virginianus,* as the top game animal in North America, ahead of such famous trophies as the Dall sheep, grizzly bear or moose.

There are many reasons for this, including the fact that the whitetail deer is incredibly smart, especially at eluding hunters. It has been pretty well established that a whitetail will spend most of its life in an area no larger than about one square mile. The key to its survival in that small area is the animal's intimate knowledge of that mile, the location of every stick, stone and blade of grass.

The story is often repeated about the experiment that Michigan wildlife department officials conducted several years ago. Thirty-nine whitetail deer, including nine bucks, were put into a fenced-in square mile portion of the Cusino Wildlife Experiment Station. The area included various types of terrain, from swampland to hardwood forest, but the fence around the square mile was high enough so the deer could not escape.

Six experienced hunters were allowed into the enclosure to bag a buck, but four days passed before any of the hunters even saw one. It was only after 51 hours of hunting under nearly ideal conditions that a whitetail was finally shot.

Intelligence did not come overnight to this tough, agile creature. Whitetails have been around a long, long time, and they have been hunted as food since man first learned to fashion arrows from stone. Scientists tell us the first whitetail deer probably reached North America about 15 million years ago, working their way across the snow bridge that connected present-day Alaska and Russia. The animals almost certainly did not look then like they appear today. Centuries of climatic changes that wiped out many other species of wildlife eventually produced one of the smartest, fastest and most beautiful of all woodland creatures.

I have seen deer jump over a six-foot fence without a running start. They'll probably clock 35 miles an hour through dense woods, and this with a wide rack of antlers on their heads. The whitetail can stop in an instant, change direction, and be at full speed again

Rapid exit is accomplished with white tail held high, a signal to other deer that danger is near.

almost immediately, something that would seemingly send most animals somersaulting head over heels. The whitetail can do it because its front legs are not connected to the skeleton frame with a bone joint, but rather with tough muscle and cartilage that acts like a spring to absorb the shock.

The whitetail has what has been estimated to be eight-power vision. I believe it, too, after some of the experiences I've had with deer. My mother and father live in some of the best deer country in the United States, southwest Texas, and we often spend our late afternoons on their back porch watching for deer.

Their porch overlooks a stream, a small patch of oak and pecan trees, and a 200-yard wide open meadow. The animals come out of dense woods to the edge of the meadow, and even with my 400mm telephoto lens they appear to me only as small dots. But let me walk from the porch to the pecan trees, and the deer will spot me every time and move back into the woods.

Actually, it is my movement that alerts the deer. They are color blind and see the world in shades of gray. The whitetail also has a phenomenal sense of smell, and its hearing is probably even better.

Some biologists believe deer even use their feet to help them hear. Sensitive fleshy pads between the hooves pick up vibrations. This might be one reason why deer paw the ground—so they can be "heard" by other deer. Whitetails also warn others of nearby danger by exhaled "snorts"—a sound familiar to everyone who hunts deer with camera or gun. Those same snorts are also clearing the whitetail's nostrils so it can smell you even better!

Even the fawns are strong. Within minutes after birth, which is from spring to mid-summer, the young can usually stand. An hour after coming into the world, they can walk, and within three or four days, move around easily. I have seen fawns that could not have been more than two weeks old leap over fallen trees and clear low fences with ease.

The young are born odorless, or at least with a very weak scent, which helps protect them from predators. During these days, the mother often leaves the fawn hidden and grazes nearby, just so her own scent won't attract enemies. People walking through the woods may find these fawns by themselves during this time, and often think the animal abandoned. This is hardly the case, and more often than not, the mother is watching from only a short distance away.

Certainly one of the attractions of deer is the growth of antlers on the males (and occasionally some does), which often have huge proportions. Antler growth cannot be used as a method to determine a deer's age, as growth depends on a diet of calcium and phosphorus. Generally speaking, the older the deer, the more impressive its antlers. This is simply because the protein and other nutrients in the diet of a young buck go to body growth rather than antler growth.

Antler growth usually starts in late spring, and until late summer they are in velvet. They are soft, and in reality are a type of skin, with veins and short whisker-like hair. An adult deer needs as much as 12 pounds of food per day, and if it can get this throughout the summer, by fall its antlers should be impressive.

Bucks shed their antlers between December and February, after the breeding season. Cold weather seems to make deer drop antlers earlier, and strangely enough, so does breeding. The more a buck breeds during the season, the sooner his antlers will drop. Tests have shown that bucks kept penned throughout the entire mating season did not drop their antlers until March and even April.

Whitetails have many natural enemies, but despite the continual decrease in their range due to human expansion, the deer continue to thrive. Today, there are probably more than 5,000,000 whitetail in the United States.

Virginia has a large deer population, on both sides of the Blue Ridge, and some 100,000 hunters go after them each fall. About one in four is successful. For the cameraman, however, there are no closed seasons, and anytime is a good time to photograph deer.

The whitetail deer can clear six-foot high fences from a standing start. Here doe jumps over a four footer.

Creatures of habit, deer come to water in early morning and late afternoon. Photographers and hunters alike often station themselves near water for good shots.

Catch a record fish? Why not. Last year the brown trout record alone was broken three times and 3 other new freshwater marks were set. In salt water new marks were set for gray trout and speckled trout. Record or not, many Virginia anglers recorded their lunkers for fresh or salt water citations. The Commission of Game and Inland Fisheries recorded approx. 1550 citations for 1974 and the Virginia Salt Water Fishing Tournament passed out 4,260 citations for outstanding catches. Freshwater fish can be weighed at most sporting goods stores or any grocery or meat market with a State inspected scale. Saltwater fishes must be weighed by a weighmaster at an official weighing station. Inquiry at a local sporting goods store or marina will usually turn up the name of the nearest one or a list may be obtained from the Virginia Salt Water Sport Fishing Association, 25th Street and Pacific Avenue, Virginia Beach, Virginia 23451. Saltwater catches may only be entered in the tournament from May 1 through November 30, although new records may be registered at any time. Freshwater entries are accepted the year around if submitted to the Game Commission within 60 days of date caught, certificates usually sent within 30 days after application is received. Saltwater citation plaques are awarded annually after the tournament closes November 30.

Species	Virginia Record	Where caught	When caught	Angler	1975 Citation Minimum	World Record
FRESHWATER FISHING						
Brook Trout	4 lb. 2 oz.	Back Creek	11-13-1973	O. G. Burkholder	2 lb.	14 lb. 8 oz.
Brown Trout	14 lb. 6 oz.	Smith River	8-8-1974	Al Teachout	2 lb.	39 lb. 8 oz.
Rainbow Trout	10 lb. 12 oz.	Philpott Dam	9-4-1974	H. Dillon	5 lb.	42 lb. 2 oz.
Carp	60 lb.	Private Lake	7-5-1970	Ben Topham	20 lb.	83 lb. 8 oz.
Channel Cat	30 lb.	Smith Mt. Reservoir	6-2-1973	Robt. Underwood	10 lb.	58 lb.
Crappie	4 lb. 14 oz.	Lake Conner	4-8-1967	E. L. Blackstock	2 lb. 8 oz.	5 lb. 3 oz.
Flathead Cat	57 lb.	South Holston	7-29-1972	A. Robinette	20 lb.	104 lb.
Gar	20 lb. 8 oz.	Northwest River	8-20-1973	R. H. Marshall	10 lb.	50 lb. 5 oz.
Grindle (Bowfin)	17 lb. 8 oz.	Chickahominy Lake	11-14-1964	E. C. Cutright	10 lb.	19 lb. 12 oz.
Kentucky Bass	5 lb. 12 oz.	Claytor Lake	5-25-1973	S. G. Turner	3 lb.	8 lb. 8 oz.
Lake Trout	5 lb. 6 oz.	Philpott Dam	7-6-1966	A. A. Conner	5 lb.	65 lb.
Largemouth Bass	14 lb. 2 oz.	Gaston Lake	4-12-1975	Bobby S. Creel, Sr.	8 lb.	22 lb. 4 oz.
Muskellunge	31 lb.	Smith Mt. Lake	5-26-1973	Pete Fuqua	6 lb.	69 lb. 15 oz.
Northern Pike	18 lb. 5 oz.	Occoquan	5-3-1974	O. J. Richardson	6 lb.	46 lb. 2 oz.
Chain Pickerel	8 lb. 4 oz.	Gaston Lake	10-7-1973	H. R. Evans	4 lb.	9 lb. 6 oz.
Rock Bass	2 lb. 2 oz.	Pigg River	3-29-1964	J. Monaghan	1 lb.	3 lb. 10 oz.
Smallmouth	8 lb.	Claytor Lake	5-22-1964	C. A. Garay	4 lb.	11 lb. 15 oz.
Striped Bass (Landlocked)	37 lb. 9 oz.	Smith Mt. Lake	2-16-1975	S. B. Taylor III	10 lb.	55 lb.
Sunfish (Redear)	4 lb. 8 oz.	Private Pond	6-19-1970	Gene Ball	1 lb.	4 lb. 8 oz.
Sunfish (Bluegill)	4 lb. 8 oz.	Private Pond	2-7-1970	T. E. Jones	1 lb.	4 lb. 12 oz.
Walleye	22 lb. 1 oz.	New River	8-20-1973	R. G. Barrett	8 lb.	25 lb.
White Bass	4 lb.	Claytor Lake	5-17-1974	E. V. Clark	2 lb.	5 lb. 5 oz.
Yellow Perch	2 lb. 4 oz.	New River	3-25-1972	R. L. Irvin	1 lb.	4 lb. 3½ oz.
White Perch	2 lb. 4 oz.	Lake Smith	11-21-1973	R. Shoemaker	1 lb.	4 lb. 12 oz.
Coho Salmon	8 lb. 12 oz.	Philpott	12-27-1971	M. Chilton	3 lb.	31 lb.
Sauger	5 lb. 8 oz.	S. Holston Lake	7-2-1972	R. Stallard	3 lb.	8 lb. 12 oz.
SALTWATER FISHING						
Shark	817 lb.	Off Va. Beach	1974	D. A. Lips	100 lb.	
Blue Marlin	511 lb.	Off Va. Beach	1971	S. T. Alcus III	250 lb.	1142 lb.
Yellowfin Tuna	110 lb. 12 oz.	Off Wachapreague	1959	J. E. Gladstone	50 lb.	308 lb.
Bluefin Tuna	138 lb.	Off Va. Capes	1963	J. C. McMahon	50 lb.	1120 lb.
White Marlin	102 lb. 3 oz.	Off Wachapreague	1967	L. Weisblatt	50 lb.	159 lb. 8 oz.
Sailfish	63 lb. 8 oz.	Off Va. Beach	1973	F. P. Margiotta	30 lb.	128 lb. 1 oz.
Cobia	102 lb.	Cape Charles	1938	J. E. Stansbury	45 lb.	110 lb. 5 oz.
Black Drum	111 lb.	Off Cape Charles	1973	Betty D. Hall	60 lb.	111 lb.
Channel Bass	83 lb.	Cape Charles	1949	Zack Waters, Jr.	40 lb.	90 lb.
Tarpon	98 lb. 12 oz.	Off Oyster	1967	Joe Dove	40 lb.	283 lb.
Wahoo	89 lb.	Off Va. Capes	1960	J. B. Pressey, Sr.	20 lb.	149 lb.
Striped Bass	58 lb. 8 oz.	Gwynn's Island	1963	Dewey Norton	20 lb.	72 lb.
Dolphin	62 lb.	Off Va. Beach	1971	Sue Smith	15 lb.	85 lb.
King Mackerel	50 lb. 8 oz.	Parkers Island	1963	H. L. Johnston	20 lb.	78 lb. 12 oz.
Amberjack	91 lb.	Off Va. Beach	1971	Mark Conrad	45 lb.	149 lb.
False Albacore	25 lb. 4 oz.	Off Va. Capes	1964	Jack Sparrow	15 lb.	
Bluefish	23 lb. 5 oz.	Off Va. Beach	1971	C. H. Blake, Jr.	17 lb.	31 lb. 12 oz.
Tautog	20 lb. 4 oz.	Off Va. Beach	1971	E. W. Nickerson	9 lb.	21 lb. 6 oz.
Flounder	17 lb. 8 oz.	Baltimore Channel	1971	C. E. Cross	6 lb.	30 lb. 12 oz.
Sheepshead	18 lb. 13 oz.	Bridge Tunnel	1973	W. F. Rowe	*	
Spadefish	12 lb.	Plantation Light	1959	W. A. Luettinger	*	
Gray Trout	14 lb. 12 oz.	Ches. Bay Bridge Tun.	1974	R. T. Ray	9 lb.	19 lb. 8 oz.
Speckled Trout	11 lb. 4 oz.	Parkers Island	1974	Arthur Bolm	5 lb.	15 lb. 6 oz.
Codfish	35 lb.	Off Wachapreague	1969	R. Crammer	*	98 lb. 12 oz.
Sea Bass	7 lb. 1 oz.	Off Va. Capes	1969	Vernice Byford	4 lb.	8 lb.
Croaker	5 lb. 1 oz.	Off Onancock	1963	F. D. Mears	*	
Porgy	5 lb. 2 oz.	Off Chincoteague	1970	Dolly Shepherd	*	
Spot	2 lb. 2 oz.	Hampton Bar	1948	E. E. Longworth	15 ounces	

* Not eligible for citation.

Female with newborn young.

SOUTHERN LIVING

WITH RATTLESNAKES

By F. D. P. BRUNER
Waynesboro

IN the Blue Ridge Mountains of Virginia, April showers bring May flowers and rattlesnakes, mating and mean.

The rattlesnake, as a serpent, has ancestry dating back to the Garden of Eden. Through the course of time he has been honored by the gods of Olympus, who placed his image as two oppositely twining serpents on the 'caduceus,' the herald's staff of office; specifically, the staff of Hermes or Mercury. Thus his image represented a knowledge of medicine, science, and all-round wisdom. When carried by the messenger of Zeus the 'caduceus' was the symbol of authority, by which proclamations of the gods became the law of the land. When the 'caduceus' was adopted as the symbol of the Army Medical Corps and doctors generally, it showed obeisance to the serpents.

In recent times, due to well earned respect, more honors have been bestowed upon the rattlesnake. Revolutionary flags from Virginia to Texas showed the picture of a rattler as symbolic of vigilance and true courage. Below pictures of the coiled or striking rattlesnake was the motto "Don't tread on me," every word of which was meant.

While the rattlesnake prefers retreat to combat as a practical way of life, this simply means he will live to fight another day. Early in May 1970 a surveyor, with his dog, was hiking out a reconnaissance of the long abandoned Howardsville Turnpike. An incident confirmed his opinion that in all fauna the female is more dangerous than the male—and more protective.

South of Howardsville Gap, near the headwater of Goodwin's Creek, the man and dog encountered their first rattlers of spring. The time was afternoon of a delightfully warm day. The old road was nothing but a deer trail. Fallen trees, from winter's ice storm, and thick underbrush made walking difficult. Here and there the sun came through to warm an open spot on the hardly discernible wagon-wheel ruts. And there was the rattlesnake: a mature brown-sulfur, yellow Timber, coiled, and whirring her rattles. The sound was musical rather than ominous, as the jingling of a string of sea shells.

The small dog, being accustomed to swamp and mountain snakes, played it safe. She stopped short by a dozen feet. From outstaring the rattler's lidless eyes, she turned her head a little to the left. Still watching the coiled rattlesnake, Tootsie, the dog, identified the slight distracting sound and movement as a second snake retreated down the mountain side. As May is the mating season, the two rattlers had paired off. On the approach of danger the male departed, leaving the female to rear-guard his retreat. Having satisfied her curiosity the small dog started forward again, but was called back. As the man approached, with his machete, the female snake remained motionless, except for whirring rattles. If the rattlesnake should strike, a quick downward stroke of the machete as it straightened out would sever the head. If it remained coiled, the machete would be thrown as a knife. Either of which maneuver would be safe and effective because a four-foot rattler, at most, can strike only two feet.

But the surveyor changed his mind. The rattlesnake is a "gentleman," so why harm her for no reason. Besides, the tangle of underbrush and tall grass put him at a disadvantage. So the man and the dog, walking in a propitious arc around the snake, continued on their way. When they disappeared over a low rise, the rattle was still heard. Over seven minutes had elapsed for the incident. The snake, having given her warning to approaching humans, continued her warning for them not to return. As to the retreating male rattler, he would be dangerous to follow. When gliding ahead he can strike, to the side or rear, with dexterity. "A very good thing to know."

A good rattlesnake is not necessarily a dead one. Even the Boy Scouts of America consider the rattler

a "gentleman." Occasionally he reluctantly entertains them, which the scouts of Afton can verify. A timber rattlesnake glided down a steep path into their camp area. Knowing the habits of mountain rattlesnakes, the mountain boys were alert to the danger of playing carelessly with them. Nevertheless, they played. Using long poles they prodded the snake into striking repeatedly. This game exhausted the rattlesnake and his supply of venom. Then an older scout put on his act. Using a four-foot forked stick, he approached the languid snake. With quick movement he jammed the prong back of the rattler's wide head and held it there until the tired snake stopped squirming. Then with a steady reach, he caught the rattlesnake by the small of the neck, so there was no possibility of the head turning. Releasing the stick he let the snake curl around his arm. Soon it relaxed, and the boy held it suspended from his hand. Having proved his point, and demonstrated his art of "snake-charming," he threw the rattler off into the brush. Free again, the snake slid quietly down the mountainside: mortified, but undoubtedly relieved.

The rattlesnakes are "Homebodies." They do not migrate. Their summer wanderings are within several 'short miles' from place of birth. Where they live is where they hibernate year after year. In case of emergency the rattlers may change their abode. Even then, when moving far and wide, they may run into difficulties—not being accustomed to roaming.

Park Service summer maintenance crews, trimming grass and underbrush, kill many. The snakes are hot and drowsy, too lazy to move—which is excusable, for if exposed to 100 degree temperature for a short while they die. Death at high-noon—with the only alternative being in how they die. Few escape.

At twilight, of a hot summer day, death again stalks the traveling rattler. He gets chilly as the sun goes down, and the only warm place is the asphalt pavement of the roadway. The snake crosses slowly, feeling comfortable and content. But a quietly approaching tire ends all that. Day's-end traffic claims many victims. Tourists claim the rattles.

One urban-minded rattlesnake, avoiding highway construction, ended up in the suburbs of Waynesboro. His 'end' was complete when a housewife cut him to pieces with a long handle hoe. His death hit the local obituary column.

Hikers in rattlesnake country are advised to carry canes. By thumping on the ground the vibration is conveyed to any wandering rattler, who is too near for comfort. The snake leaves the vicinity. Should he fail to go away the cane can be used to force a retreat, or else kill the snake.

While rattlesnakes are local natives wherever encountered, they are found in a wide stretch of the western hemisphere; from Canada to Argentina. Home, generally, is where there is ample food, such as small warm-blooded animals (rats, rabbits, mice, squirrels, birds, even a little alien snake now and then).

Some people have used table salt to draw out the pain of burns and to treat snakebites. First, cuts were made across the fang marks; then salt was spread thickly over the spot. This created a sort of osmosis, by which poison was drawn out as the pain abated.

Occasionally, careless tourists, forgetting the Revolutionary emblem showing a coiled rattler with the motto "Don't tread on me," do, accidentally, step on one. About the middle of August 1968, at Rockfish Gap, this occurred. A family of four stayed overnight at a motel. The father, daughter, and son decided to stroll before a late breakfast. The sun was well up. The dirt path was warm. Tall grass and underbrush almost closed the path along flat sections, while shadows left an indistinct blur of partly concealed objects. And here was the full grown timber rattlesnake. Comfortably stretched out he dozed under a low bush beside the path. His color blended with nature's shades. The two children, in soft shoes, walked quietly ahead, sister in advance. The snake, having no ears, heard nothing. Light steps gave forth no vibration. The little girl walked over the rattler. Her brother stepped on it. The rattlesnake instantly twisted to strike the boy's leg. Father, too late to warn of danger, saw it all. The snake, being in good traveling position, slithered quietly away.

Father calmly applied first aid. Recognizing fang marks, using belt tourniquet, making pen-knife incisions, applying mouth suction, he prepared his son for the quick arrival of the emergency crew. At the Waynesboro Community Hospital injections around the wound were made in two concentric circles. After being kept quietly relaxed for a short time, the youngster was released. With an early lunch, having had no breakfast, the family, including son, departed. While mother's diary of the summer tour might be prosaic, her son would tell a tale—with all the advantage of having lived to tell it.

The rattlesnake is a gentleman, but beware of familiarity. At times he is extremely dangerous. Then again he is less fatal, as with the young tourist. Caution prevails; yet accidents occur. While Lady Luck is really a sweetheart, fickle at times, she makes a "good steady." However, circumstances alter situations; if the above Rockfish Gap rattler had just killed and eaten breakfast, his venom would have been depleted and himself exhausted. Some people are partially immune to snake poison; perfect physical condition and youthful age help throw off the effects of a rattler's bite. The quick application of proper first aid is especially beneficial. So, the son of the family lived; was hardly pale, only slightly nauseated, and up and running in three hours.

In case of a rattlesnake's strike do not become frantic; a quickened pulse increases spread of poison. Remain calm. It's only a case of life or death.

SIX-LEGGED WOLVES

By HARRY A. JACOBSON
VPI & SU, Blacksburg

ALTHOUGH many are not aware of it, there are "wolves" in Virginia, and six-legged ones at that! These "wolves" are the larvae of a unique fly which parasitizes some of our small game mammals. The larvae of flies belonging to the genus *Cuterebra* are often called wolves, warbles, or bots by the sportsman who finds them in rabbits or squirrels which he has killed.

Although *Cuterebra* parasitism does not detract from the edibility of the meat if affected areas are removed, the presence of the parasite has caused thousands of small game animals shot by hunters to be discarded. This waste is of great concern to game biologists.

Aside from hunter waste, another reason exists for concern about this parasite. What effect does the parasite have on its host? To date, not enough is known to provide a satisfactory answer to this question. It is known that the larvae can occasionally cause the death of an animal, but this is most likely the exception rather than the rule. It is more probable that the larvae can so weaken an animal that it will contract other diseases or be caught by predators.

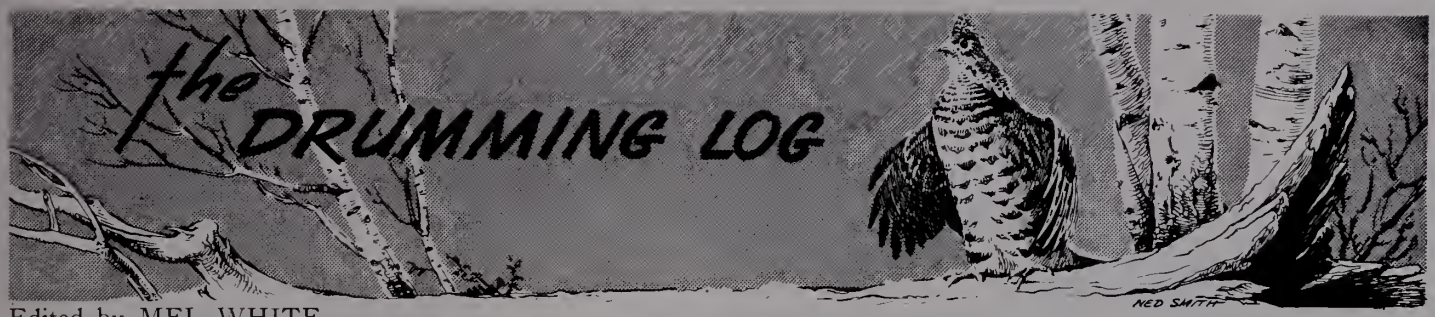
What we do know about the flies is that they have a unique life cycle. The females deposit their eggs in nests, trails or areas frequented by small mammals. When a mammal comes near the eggs, larvae are hatched in response to the animal's warm breath. At this point, the larvae extend themselves upward in a swaying motion. The larvae then latch onto the animal, if contact can be made. Once on their host, the larvae remain inactive until they come in contact with a moist body surface, such as the tongue or lips. This probably occurs when the mammal grooms itself. Contact with a moist surface causes the larvae to become active and, in this manner, they enter their host. The larvae then migrate through their host's tissues and eventually become located just beneath the skin. A breathing pore is cut through the skin and the larvae begin to increase greatly in size. Approximately one month after entering their host, the larvae have become mature enough to emerge from their host. After emergence, the larvae burrow in the soil and undergo metamorphosis into a dormant stage called the pupa. Most pupa overwinter in this inactive stage and emerge as adults the following spring or summer.

The adult flies are short-lived and have the sole purpose of reproducing. Since the adults only emerge during certain periods of the year and require very selective areas in which to breed, this stage of the fly's life may someday allow biologists to control the damage it causes. The flies require unique areas, called breeding aggregation sites, which are usually very distinctive and, depending on the individual species of fly, might be a high hilltop, streambank, low depression, or some other similar area set apart from the surrounding landscape. If biologists can locate these mating areas, it might then be possible to reduce the number of adult flies through biological or chemical control.

We still need to acquire a great deal of knowledge about the flies in the genus *Cuterebra*. However, we have already gained enough information to realize that management of the fly to the benefit of the sportsman may someday be possible. Since the larvae only occur in game animals during certain periods of the year, setting of hunting seasons late to minimize hunter contact with the parasite is one of the management options available. Obviously, there are other considerations to be made in the setting of hunting seasons and therefore this option alone will not prevent all hunter contact with the parasite. Hopefully, further research may provide biologists with more viable management solutions and the answer to such questions as what effects does the parasite have on its host, is it economically feasible and desirable to control this parasite, and how much effect does the parasite have on the hunter who finds it in the game he has killed?

Larvae from a live rabbit. Photo by W. F. Murphy, Jr.

At present, the author of this article is conducting research on this parasite and has requested assistance from our readers in obtaining information about the parasite. If you kill, or have killed, game containing this parasite, the following information would be greatly appreciated: Game species involved, locality of the kill (county, state, and nearest city), number of larvae, and date of kill (if known). If live larvae can be obtained, these would also be appreciated. Place the larvae in a small plastic or cardboard container with a small amount of soil for mailing. Send to Harry A. Jacobson, Department of Fisheries and Wildlife Sciences, V.P.I. & S.U., Blacksburg, Virginia 24061.



Edited by MEL WHITE

Fontana Roundup: June 11-14

The sixteenth annual Fontana Conservation Roundup will be held June 11-14, 1975, at Fontana Village Resort, Fontana Dam, North Carolina. Theme: Planning the Use of Land—For What, By Whom and How.

Started in 1960, the Fontana Roundup has evolved into an award-winning forum which each year tackles the need for wise decisions in the conservation field. Top experts present varying views on nationally important topics. Participation by all those attending is encouraged, and some of the most productive comments have come from the informal discussions that follow each presentation. Field trips are planned.

The meetings are open to the public and anyone interested in conservation is invited to attend. Information can be obtained from Bob Sloan, Fontana Conservation Roundup, Fontana Dam, North Carolina 28733.

Two New Commissioners

Commission photo by Knuth

The two newest members of the Game Commission, James D. Bowie of Bristol (center) and Frank F. Everest, Jr., of Alexandria (right), pose for this photograph with Game Commission Executive Director Chester F. Phelps. Mr. Bowie replaces Ralph Gunter of Abingdon; Mr. Everest, G. Richard Thompson of Marshall.

New Ramp at Dutch Gap

Workmen (left) are shown guiding into place a 30 x 12 foot reinforced concrete slab that will become part of a new concrete ramp at Dutch Gap. Mr. Lloyd Byrd, Commissioner Engineer, announced that the Commission has just recently completed upgrading the Dutch Gap boating access area. Two new 12-foot concrete ramps have been constructed replacing the old ramp that was damaged and presented difficulty in launching boats at extreme low tide. The new ramps are of sufficient depth to eliminate this problem. The parking area has been graded and stabilized with stone, and the underbrush has been removed between the parking area and the ramp and this area has been graded and seeded. Also a new walkway has been added between the two ramps.

Commission photo by White

Loudoun County Game Warden "TA" Daniel calms a raccoon which has just been rescued from a rather serious urban situation.

Know Your WARDENS

Text and Photos
By F. N. SATTERLEE
Information Officer

THOMAS A. DANIEL
Warden, Loudoun County

THOMAS A., or more familiarly "T A," Daniel is a native of Loudoun County, Virginia, where he grew up on his father's two farms near the town of Leesburg. He attended the one room school at Mountain Gap, Virginia, during the first four years of his schooling and for two years following his graduation from Leesburg High School was affiliated with Lincoln Academy in Lincoln, Nebraska.

His very early years were spent learning about the outdoors and nature from his father. The elder Daniel was an avid hunter and began training "T A" at age 10 in firearms safety, marksmanship, hunting and the appreciation of wildlife. The boy was required to accompany his father for two years of field training before he was allowed to go out hunting by himself.

During those years the main game animals in Loudoun County were rabbits and squirrels; deer were virtually nonexistent. This in contrast to the more than 600 deer which passed through check stations in that county this past season as part of the statewide harvest of over 61,000.

In August of 1942 he enlisted in the United States Navy, received his boot training at Norfolk and technical training in Alabama. For three years during W.W. II he served aboard the Destroyer Escort Jacob Jones which was engaged in Convoy Duty in the North Atlantic. In all he made 14 round trips across the Atlantic, most of which were in escort of the Aircraft Carrier USS Cardinal. On the North Atlantic run there were two enemies, the ever present threat of the Axis and the other, treacherous weather.

Following his discharge as a Boatswain's Mate First Class at Little Creek, Virginia, on Christmas Day 1945, he returned to Leesburg to assume the responsibility for the operation of his father's farm. This he did until December 1949, when he was accepted for the position of Game Warden with the Virginia Game Commission and assigned to duty in Loudoun County.

To him this is a very challenging area of responsibility as Loudoun County is an intriguing inter-mix of urban, suburban and rural lands and people. The most rewarding facet of his assignment is to witness the younger generation becoming actively involved with the outdoors as hunters and fishermen . . . especially after having been properly trained. "T A" has personally trained more than 5,000 students in hunter safety classes that he has conducted. Most of these were youngsters.

Mrs. Daniel is the former Gertrude Reid from Berryville, Virginia. She and "T A" have one married son, a grandson and they make their home on a 5 acre farm a few miles south of Leesburg.

Edited by ANN PILCHER

Hostel Studies in Virginia

The U. S. Interior Department is studying potential hostel sites in scenic, historic, cultural, and recreational areas of Virginia and Delaware. Studies will be conducted by the Bureau of Outdoor Recreation's Northeast Regional Office in Philadelphia and will be led by Maurice D. Arnold, Regional Director. Undertaken in conjunction with Virginia's Commission of Outdoor Recreation, Delaware's Department of Natural Resources and Environmental Control, and American Youth Hostels, Inc., the study will seek first to identify and plot on maps the principal recreation corridors. These *maps* are available to the public free from the Virginia Commission of Outdoor Recreation, 803 East Broad, Richmond, Va. 23219, or the Bureau of Outdoor Recreation Northeast Regional Office, 600 Arch St., Philadelphia, Pa. 19106. The study is to be published next spring.

Virginia's statewide comprehensive outdoor recreation plan notes that A.Y.H. envisions the eventual establishment of many hostels throughout the state. The Interior study should help make that vision a reality, and could be used as a prototype for the expansion or initiation of hostel facilities in other states.

Send for your FREE Plant a Tree for Tomorrow booklet TODAY!

bring joy to your little corner of the world...

Plant a tree for tomorrow!

Write:

The National Arbor Day Foundation
Arbor Lodge 100
Nebraska City, Nebraska 68410

Photo by Cary Shelton, courtesy *Gazette-Virginian*

From left: Sportsmans Club President Henry C. Edmunds; first-place winner Solomon; third-honors winner Whitlow.

Sportsmans Club Honors Food Patch Winners

Late last year the Sportsmans Club of Halifax presented awards to Future Farmers of America members whose wildlife food plots rated highest in the annual contest sponsored by the club: first place winner, Charles Solomon; second place, Lawrence Long; third, Bobby Whitlow. Mr. J. R. Cardwell, Jr., is advisor to the senior FFA's at Halifax County High in South Boston.

Emory Topping photo

James N. Kerrick, Game Commission Safety Officer (far left), presented cash awards to Izaak Walton League food patch contest winners last fall in Staunton. Front row from left: Dale Earhart, Riverheads Elementary School; Jed Shaner, Buffalo Gap High School; William Rivercomb, Deerfield Elementary School. Second row: Jeff Fink, BGHS; Steve Simmons, Fort Defiance High School; Billy Brooks, Riverheads High School. Other winners were selected as follows: Mary C. Rainey, Angus beef; B. C. Knicely, Jr., $50 savings bond; Lisa Todd, 16-pound ham.

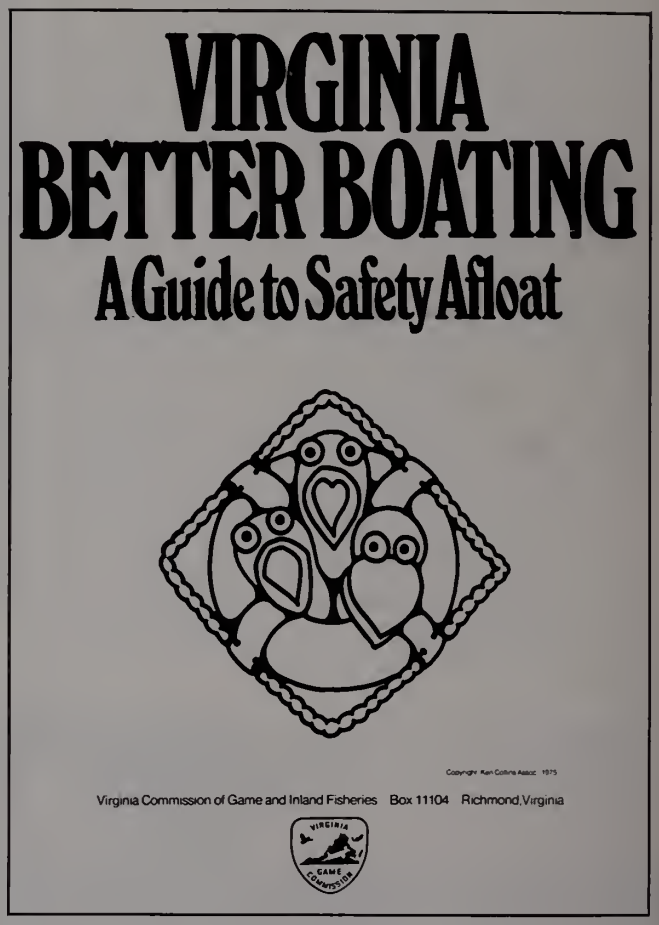
Edited by JIM KERRICK

Now Hear This . . .

The Virginia Commission of Game and Inland Fisheries now has a home study course, entitled "Virginia Better Boating," for seasoned and non-seasoned skippers who wish to enhance their boating knowledge. The Home Study Course covers regulations, motorboats, sailboats, registration, trailering, motors, lifesaving, navigational aids, compass, weather, locks and dams, rules of the road, getting underway preparations, mooring, knots, water sports, accidents and rescue, fires, first aid, and security.

The skippers who take the course and successfully complete the examination will receive a certificate of completion and a wallet-size ID card.

Anyone who is interested in taking the Virginia Better Boating Course may send one dollar ($1) to the Boating Course, P. O. Box 11104, Richmond, Virginia 23230, for Better Boating study kit. Make all checks payable to the Treasurer of Virginia. The Virginia Better Boating Course is available to Virginia residents only.



Textbook for home study boating course.

Singing pelicans and the Game Commission insignia appear on the boating course certificate of completion.

BUOYANT VEST (Type II). Probably most common wearable personal flotation device; designed to turn unconscious person in water from face downward position to vertical or slightly backward position. Recommended for closer, inshore cruising. Available in cloth covered or molded foam models. Acceptable for all size boats.

Bird of the Month:

HORNED LARK

By JOHN W. TAYLOR
Edgewater, Maryland

FEW among our native birds fared well when America changed from forested wilderness to an agricultural land. The horned lark did, and has since prospered. An open country species, it found the farm clearings to its liking, and, meeting with little competition (there are no others in its family this side of the Atlantic), has continually expanded its breeding range.

In early times it nested only on the treeless tundra of the far north, where the majority of its kind still retires in summer, and where, in the Old World, it is still restricted as a breeder. By the turn of the century, it was known to nest sparingly in New England and the northern Great Plains. Gradually it has moved southward until today it breeds in all but the extreme southeastern states, and through much of Mexico. It is perhaps the most spectacular example of natural range extension in modern (ornithological) times.

Locally, the history of its spread begins in the 1900's when eggs and young were found in the mountainous counties of Maryland and West Virginia. The first recorded Virginia nestings, in Arlington and Fairfax Counties, did not occur until the 1930's, though this lapse is probably due to lack of observers in the western part of the state. The chronicle of its spread within the state reads as follows: Lynchburg, 1931; Lexington, 1934; Blacksburg, 1940 and Newport News, 1950.

It should be emphasized that these dates and places refer to the *breeding* of the horned lark. Even the early naturalists knew them as common wintering and transient birds over much of the state.

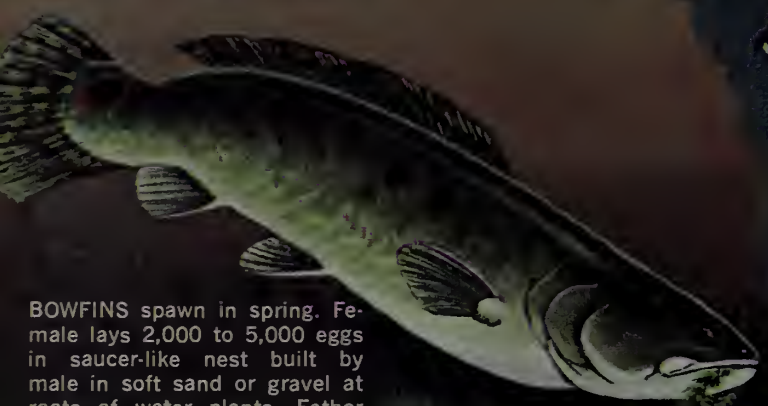
Yet, despite this abundance and its liking for wide open country, the horned lark is easily overlooked. In a newly ploughed field, a large flock blends amazingly with the background. One has to keep the birds under constant scrutiny, and carefully mark their location, else it is hard to find them again. Often, what was thought to be a few birds along the road, becomes a field full when they take wing. Too, since they seek out the bleakest, most arid, windswept open space in the neighborhood, only the hardiest birder is liable to detect them.

Often it is their song which betrays their presence. A jumble of sweet tinkling notes that carry softly on the wind, it is similar to the music of the much-praised skylark of Europe.

If the singer is close at hand, one can see the tiny tufts rising from the black crown, the "horns" which give the bird its name. At greater distances, the most impressive feature of the male is the contrast in color about the head and neck: bright lemon yellow against jet black. Females are more subdued in tint.

Spawning Seaso

[illegible]LLS deposit a [illegible]s in nest, [illegible] depression. [illegible]nd newly [illegible].

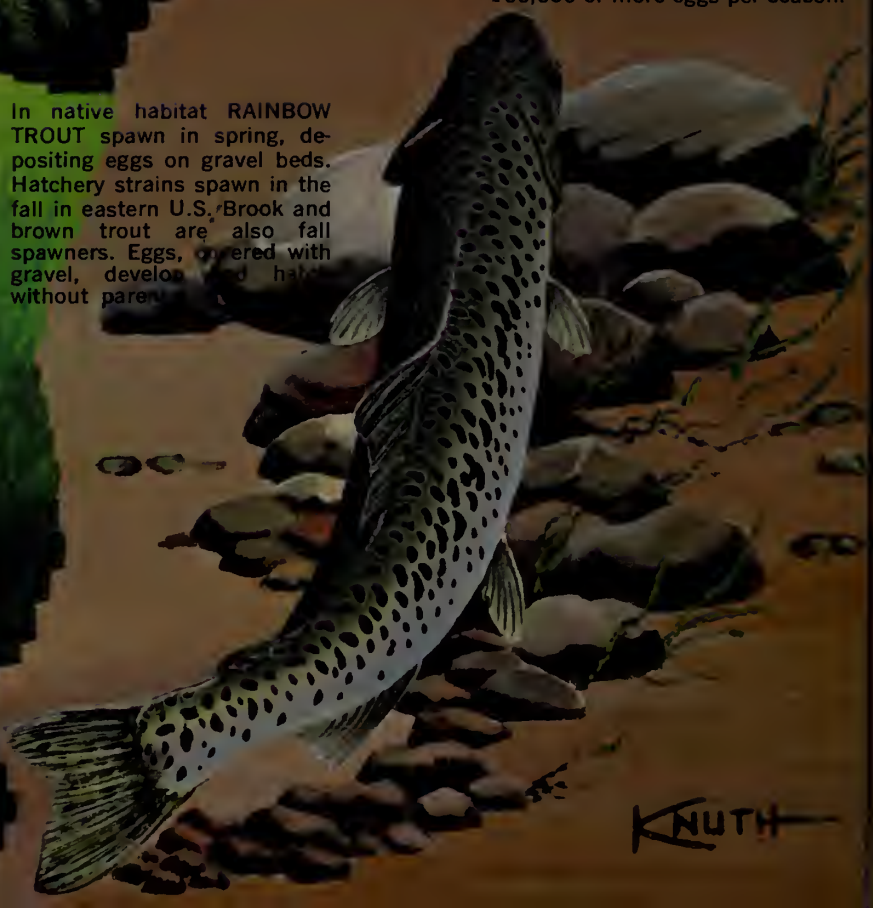


BOWFINS spawn in spring. Female lays 2,000 to 5,000 eggs in saucer-like nest built by male in soft sand or gravel at roots of water plants. Father guards eggs and newly hatched fry for several weeks.

AMERICAN SHAD [illegible] eggs [illegible] until they hatch. This anadromous Atlantic coast fish enters rivers to spawn. One female may produce 100,000 or more eggs per season.

Members of the sunfish family, LARGEMOUTH BASS (like bluegills) scoop out a depression where one or more females deposit eggs.

In native habitat RAINBOW TROUT spawn in spring, depositing eggs on gravel beds. Hatchery strains spawn in the fall in eastern U.S. Brook and brown trout are also fall spawners. Eggs, covered with gravel, develop and hatch without parent[illegible]



KNUTH